

cont  
B1  
2. (Amended) The flavor enhancing oil of Claim 1, wherein said water soluble particulate flavor enhancer comprises at least one nucleotide flavor enhancer.

3. (Amended) The flavor enhancing oil of Claim 1, wherein said water soluble particulate flavor enhancer comprises at least one amino acid flavor enhancer.

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Please Add the Following Claims:

B2  
12. (New) The flavor enhancing oil of Claim 1, wherein said water soluble particulate flavor enhancer has an average particle size of less than about 30 microns.

13. (New) The flavor enhancing oil of Claim 12, wherein said water soluble particulate flavor enhancer has an average particle size of less than about 20 microns.

14. (New) The flavor enhancing oil of Claim 13, wherein said water soluble particulate flavor enhancer has an average particle size of less than about 10 microns.

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**REMARKS**

Claims 1-9 are currently pending in the application. Claims 1-9 are rejected in the Office Action of August 12, 2002. Claims 1-3 are hereby amended to better define the invention. Support for the amendments can be found in the specification on page 6, lines 6-7. Claims 12-14 are hereby added. Support for new claims 12-14 can be found in the specification on page 6, lines 6-10.

**Rejections Under 35 U.S.C. § 103(a)**

Claims 1-9 are rejected under 35 U.S.C. § 103(a) as unpatentable over Stoltz in view of Fennema and Patel, *et al.*

Stoltz, (US Pat. No. 5,650,185) discloses oil compositions containing oil-based flavorants or flavorings dissolved therein. See Stoltz, column 10, lines 14-17 ("the herbal concentrate comprised oil-based liquid flavorings selected from. . . basil, dill, lemon, black pepper, tarragon, oregano, and rosemary oils...."); column 10, lines 30-32 ("oil-based liquid concentrate selected

from ... beef, liver, cheese, tuna, shrimp, chicken and crab"); column 10, lines 61-62 ("the flavor concentrate comprises an oil-based liquid selected from ... crab, shrimp and tuna.) (Emphasis added.) Stoltz also specifically refers to oil-based flavorants in the claims. See, claims 1.C.c., 9, 10, 11, 12, 13, 16.C.c., 17, 18.C.c., and 19.C.c. Moreover, nowhere does Stoltz teach using flavor enhancers that are not oil-based.

Fennema (Food Chemistry, Third Ed., 1996) recognizes the function of known flavor enhancers. Fennema does not, however, teach or suggest incorporation of the flavor enhancers into a cooking oil. Indeed, nowhere does Fennema teach or suggest how these compounds are to be used, rather, it merely teaches the existence of flavor enhancers, stating that certain compounds do act as flavor enhancers with respect to various types of foods, and posits a theory that the flavor enhancing activity is related to the molecular structure. Fennema shows structures of 5'-IMP and MSG. 5'-IMP, a monophosphate, would be expected to be very soluble in water, but insoluble in oil. MSG, a salt, would also be expected to be quite soluble in water, but insoluble in oil. Similarly, disodium guanylate, as a disodium salt, is expected to be soluble in water, and insoluble in oil. As neither Fennema nor Stoltz teaches or suggests adding water-soluble, i.e., oil-insoluble particulate solids to an oil, the requisite motivation to combine the references does not exist.

Patel, *et al.* (US Pat. No. 5,153,011) is cited for disclosing the use of silicon dioxide as a thickener. While Patel, *et al.* does state silicon dioxide can be added to thicken and stabilize the inventive gum flavorant emulsion prior to homogenization and spray drying, (see column 3, lines 6-9; column 4 line 46 – column 5, line 17), Patel, *et al.* does not teach or suggest using silicon dioxide in a particulate solid-in-oil dispersion, as in the claimed invention. Patel, *et al.* does not teach or suggest that silicon dioxide can be used to form a matrix in an oil. Patel, *et al.* does not teach or suggest that a matrix which has been formed by adding silicon dioxide to an oil will effectively suspend water-soluble, oil-insoluble solid particles in the oil. Moreover, Patel, *et al.* does not teach or suggest adding water-soluble flavor enhancers to gum flavorant emulsions, much less oil, as recited in claims 1-9 and 12-14. Rather, the flavorings recited in Patel, *et al.*, like in Stoltz, are all oil-based. See, Patel, column 3, lines 37-45 (...the invention has found to be particularly effective when the flavoring agent is a mint oil. ...mint oil includes ... peppermint oil, spearmint oil, corn mint oil, Scotch spearmint oil ... Other flavoring agents may include ... oils

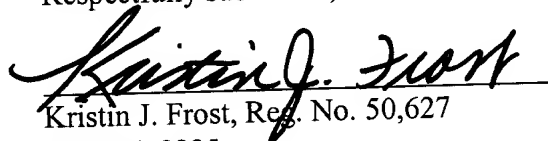
derived from plants and fruits such as citrus oils, fruit essences, clove oil, oil of wintergreen, anise, and the like.)

Stotlz teaches only a system wherein an oil-based flavorant is dissolved in an oil. Patel teaches a system wherein an oil-based flavorant is emulsified in an aqueous solution. At most, the combination of Stotlz and Patel would lead one of ordinary skill in the art to believe that the oils of Stotlz containing oil-based flavorants dissolved in a cooking oil could be emulsified into an aqueous solution. Applicants have not, however, claimed an oil-in-water emulsion, or an emulsion at all. Applicants claim a dispersion of a water-soluble, i.e. oil-insoluble, particulate solid in an oil. *See*, Claim 1, as amended. Furthermore, the combination of Stotlz, Fennema, and Patel does not teach or suggest the desirability or even the possibility of incorporating a water-soluble, oil-insoluble, particulate solid into an oil, as claimed by Applicants.

In view of the above-described remarks, it is submitted that claims 1-9 and 12-14 are now in condition for allowance. Prompt notice of such allowance is respectfully requested.

Respectfully submitted,

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Kristin J. Frost, Reg. No. 50,627  
216-622-8895

## MARKED-UP VERSION OF THE CLAIMS

1. (Twice Amended) A flavor-enhancing oil comprising:
  - a) at least one edible liquid oil;
  - b) a matrix-forming material comprising silicon dioxide; and
  - c) a flavor enhancing amount of at least one water soluble particulate flavor enhancer, wherein said water soluble particulate flavor enhancer is [uniformly] dispersed throughout said edible liquid oil.
2. (Amended) The flavor enhancing oil of Claim 1, wherein said water soluble particulate flavor enhancer comprises at least one nucleotide flavor enhancer.
3. (Amended) The flavor enhancing oil of Claim 1, wherein said water soluble particulate flavor enhancer comprises at least one amino acid flavor enhancer.